

REMARKS

Claims 1-27 are currently pending in this application. Claims 1-27 are amended. Claims 28-30 are cancelled. Claim 31 is added. No new matter is presented. In view of the above amendments and the following remarks, Applicants request the consideration and allowance of claims 1- 27.

Claims 1-4, 13-17, and 23-30 were rejected under 35 U.S.C. Section 102(e) as being anticipated by Orsini et al. (U.S. Patent No. 6,744,851). The Examiner takes the position that Orsini teaches all the features recited in claims 1-4, 13-17, and 23-30. Applicants respectfully disagree.

Orsini is directed to a linear filament array sheet for EUV production. More specifically, Orsini discloses a EUV radiation source that generates a sheet of liquid target material that has a width that matches the desired laser spot size and a thickness that matches the laser beam/target interaction depth. The EUV source includes a reservoir containing a pressurized cryogenic liquid target material. The reservoir includes an array of closely spaced orifices into a vacuum chamber as separated liquid stream filaments of the target material that define the sheet. The liquid streams freeze to form an array of frozen target filaments. Orsini further discloses a laser beam that is directed to a target area in the vacuum chamber where it irradiates the stream of filaments to create a plasma that emits EUV radiation.

Claim 1 recites, in part, separate orifices of the nozzle that are arranged in such a way that the target jets fill the radiation spot of the excitation radiation without gaps and without overlapping, wherein the orifices are arranged offset although the target jets appear closed to one another in the radiation spot. It is respectfully submitted that this feature is neither taught nor suggested by Orsini. According to amended claim 1, the laser spot is completely filled without gaps and without overlapping with target jets in such a manner as to provide an offset along the direction of the excitation radiation.

The Examiner states that the feature of the individual orifices of the nozzle are arranged in such a way that the target jets fill the radiation spot of the excitation radiation without gaps and without overlapping, wherein the orifices of the nozzle are arranged so as to

be offset to the direction of the excitation radiation for target jets appearing adjacent to one another in the radiation spot. Orsini does not teach or suggest this feature of the claimed invention. Specifically, Orsini fails to teach or suggest that the orifices of the nozzle are arranged so as to be offset along the direction of the excitation radiation. Orsini merely discloses an orthogonal orientation of the line of filaments to the direction of the excitation radiation. Orsini does not illustrate or describe that the orifices of the nozzle are arranged in such a way as to be offset for the target jets appearing adjacent to one another in the radiation spot.

Furthermore, the Examiner states that Orsini discloses a focus line that is orthogonal to the direction of the target jets. However, all the figures and the embodiments of Orsini disclose only a circular laser focus. In addition, Column 3, Lines 54-66 indicates that the laser beam is cylindrical. Thus, the extended focus line as provided in the claimed invention is neither taught nor suggested by the applied reference.

Thus, it is respectfully submitted that Orsini fails to teach or suggest separate orifices of the nozzle being arranged in such a way that the target jets fill the radiation spot of the excitation radiation without gaps and without overlapping, wherein the orifices are arranged offset through the target jets appearing closed to one another in the radiation spot. Therefore, Applicants request the withdrawal of the rejection of claim 1 under 35 U.S.C. 102(e).

Claims 2-27 are dependent upon claim 1. Therefore, it is submitted that these claims recite patentable subject matter for at least the reasons mentioned above. Accordingly, Applicants request the withdrawal of the rejection of claims 2-27 under 35 U.S.C. 102 (e).

Claims 5-12 and 18-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Orsini et al. (U.S. Patent No. 6,744,851). The Examiner takes the position that Orsini discloses all the features recited in claims 5-12 and 18-22. Applicants respectfully traverse the rejection of claims 5-12, and 18-22.

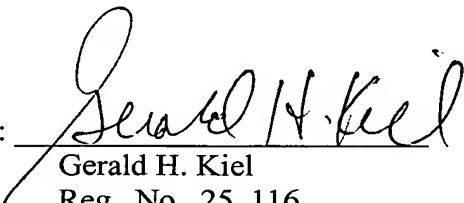
Claims 5-12, and 18-22 are dependent upon claims 1. Therefore, in view of the above amendments and the distinctions provided, Applicants submit claims 5-12 and 18-22 recite patentable subject matter. Specifically, as mentioned above, Orsini fails to teach or suggest the feature of separate orifices of the nozzle being arranged in such a way that the target jets

fill the radiation spot of the excitation radiation without gaps and without overlapping, wherein the orifices are arranged offset although the target gets appear closed to one another in the radiation spot. Accordingly, Applicants request the withdrawal of the rejection of claims 5-12, and 18-22 under 35 U.S.C. 103(a).

Claim 31 is added. No new matter is presented. It is submitted that Orsini does not teach or suggest the features recited in claim 31. Specifically, Orsini does not teach or suggest that a radiation spot is focused ... on all of the target jets exiting the nozzle. Also, Orsini does not teach or suggest that all of the target jets being completely irradiated over their diameter. Orsini merely discloses that the target filaments will close the gaps between adjacent ones caused by expansion of the target material due to the heating of the target filaments during the laser excitation. In other words, Orsini does not teach or suggest limiting the target sheet to the laser spot size or to adapt the spot size to the laser spot diameter. In view of these distinctions, Applicants request the favorable consideration of claim 31.

Based upon the above amendments and remarks, Applicant respectfully requests reconsideration of this application and its earlier allowance. Should the Examiner feel that a telephone conference with Applicant's attorney would expedite the prosecution of this application, the Examiner is urged to contact him at the number indicated below.

Respectfully submitted,

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